

**COMMONWEALTH OF VIRGINIA**  
**Department of Environmental Quality**  
**Blue Ridge Regional Office**

**STATEMENT OF LEGAL AND FACTUAL BASIS**

Custom Wood Products, LLC – Aerial Way Plant  
3304 Aerial Way Drive  
Roanoke, Virginia  
Permit No. BRRO-21390

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Custom Wood Products, LLC has applied for a Title V Operating Permit for its 3304 Aerial Way Drive, Roanoke, Virginia facility. The Department has reviewed the application and has prepared a draft Title V Operating Permit.

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## **FACILITY INFORMATION**

### Permittee

Custom Wood Products, LLC  
3304 Aerial Way Drive  
Roanoke, VA 24018

### Facility

Custom Wood Products, LLC  
3304 Aerial Way Drive  
Roanoke, VA 24018

County-Plant Identification Number: 51- 770-000254

## **SOURCE DESCRIPTION**

NAICS Code: 337110 - Wood Kitchen Cabinet and Countertop Manufacturing

Custom Wood Products, LLC (CWP) owns and operates a wood cabinet manufacturing and coating facility at 3304 Aerial Way Drive in Roanoke, Virginia. CWP produces only custom cabinets that are designed to meet customer specifications. The plant receives pre-cut boarding and stores these wood pieces on-site for custom processing. Select pieces are then cut, shaped and assembled to meet customer specifications in the building, door, and/or framing woodworking departments. Each piece of woodworking equipment is either vented to an indoor dust collector or vented to the Aerial Way plant's main baghouse to control wood dust emissions.

Once the various cabinet components have been cut, shaped, and assembled to specifications, they are sent to the coating booths to apply tints, stains, basecoats, and/or topcoats. Coatings are applied using a combination of high volume low-pressure (HVLV) spray guns that operate at air pressures below 10 psi and air-assisted airless spray guns.

The facility is a Title V major source of VOCs and HAPs. This source is located in an Early Action Compact Area for Ozone and emissions control area for VOC and NOx. The location is an attainment area for other criteria pollutants. The facility is a PSD minor source.

The Maximum Achievable Control Technology (MACT) standard for wood furniture plants (40 CFR 63 Subpart JJ) applies to the finishing operations portion of the facility as an existing source before the December 7, 1995 MACT applicability date. The plant's primary method for meeting the federal standard is to maintain an average coating ratio of HAPS/solids of less than 1.0 lb VHAP/lb solids.

## **SIGNIFICANT PERMIT MODIFICATION INFORMATION**

The Aerial Way plant received a minor NSR permit on March 12, 2009<sup>1</sup> for a modification to

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<sup>1</sup> The March 12, 2009 permit superseded minor NSR permits dated August 28, 2002 and May 23, 2006.

the facility to add three (3) coating booths. In conjunction with that permit action one (1) of the existing coating booths at the facility was shut down by mutual determination. As part of the permit action, for VOC tracking purposes it was decided to treat the entire finishing operation as the emissions unit, rather than the individual booths. This is consistent with the way other furniture operations have been treated. As a result the finishing operation has an annual emissions limit (12-month rolling total) instead of different limits for several groups of coating booths. Each of the individual coating booths is equipped with filters to control particulate emissions. The project did not contravene any condition in the source's Title V permit; therefore, incorporation was not required prior to construction and operation of the new units.

With the Title V modification application, the facility indicated that three (3) previously installed booths would be removed. These booths have been shut down by mutual agreement between the source and DEQ. These changes leave the facility with eleven (11) coating booths. Each of the booths is required by the minor NSR permit to contain filters that collect particulate matter emissions generated from the coating overspray.

During processing of the Title V modification because of the March 12, 2009, minor NSR permit action the source submitted a minor NSR permit application to increase the emission limits from the facility's finishing operation. That minor NSR permit change is a major modification and is being processed concurrently with this Title V modification. The minor NSR permit being processed will supersede the minor NSR permit issued March 12, 2009.

## **COMPLIANCE STATUS**

A full compliance evaluation of this facility, including a site visit, was last conducted on March 30, 2010. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance. Based on these compliance evaluations, the facility has not been found to be in violation of any state or federal applicable requirements at this time.

## EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The emissions units at this facility consist of the following:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device Description	PCD ID	Pollutant Controlled
<b>Woodworking Equipment</b>						
ES-DD	SNBH1	Woodworking – Door Department	120 cabinets/shift <sup>+</sup>	Baghouse	CDBH1	PM, PM <sub>10</sub>
ES-FD	SNBH1	Woodworking – Framing Department	120 cabinets/shift <sup>+</sup>	Baghouse	CDBH1	PM, PM <sub>10</sub>
ES-BD	SNBH1	Woodworking – Building Department	120 cabinets/shift <sup>+</sup>	Baghouse	CDBH1	PM, PM <sub>10</sub>
<b>Finishing Line Equipment (MACT JJ subject)</b>						
ES220A	SN220 A	Devilbiss 7'8"x12' Wipe/Stain Booth	660 sq .ft./hr	Dry filter	CD220A	PM, PM <sub>10</sub>
ES225	SN225	Greenline 7'6"x20 Topcoat/Basecoat Booth	660 sq .ft./hr	Dry filter	CD225	PM, PM <sub>10</sub>
ES227	SN227	Devilbiss 7'6"x12' Topcoat Booth	660 sq .ft./hr	Dry filter	CD227	PM, PM <sub>10</sub>
ES228	SN228	Devilbiss 7'6"x12' Topcoat Booth	660 sq .ft./hr	Dry filter	CD228	PM, PM <sub>10</sub>
ES229	SN229	Devilbiss 7'6"x12' Topcoat Booth	660 sq .ft./hr	Dry filter	CD229	PM, PM <sub>10</sub>
ES230	SN230	Devilbiss 7'6"x14' Topcoat/Basecoat Booth	660 sq .ft./hr	Dry filter	CD230	PM, PM <sub>10</sub>
ES231	SN231	Devilbiss 7'6"x14' Topcoat/Basecoat Booth	660 sq .ft./hr	Dry filter	CD231	PM, PM <sub>10</sub>
ES233	SN233	Custom Built 7'6"x14' Topcoat/Basecoat Booth	660 sq .ft./hr	Dry filter	CD233	PM, PM <sub>10</sub>
ES234 *	SN234	Superfici Flat Line Booth	1,200 sq .ft./hr	Dry filter	CD234	PM, PM <sub>10</sub>
ES235 *	SN235	Production System 8' x 12' Toning/Staining Booth	660 sq .ft./hr	Dry filter	CD235	PM, PM <sub>10</sub>
ES236 *	SN236	Spray System 10' x 14' Toning/Staining Booth	660 sq .ft./hr	Dry filter	CD236	PM, PM <sub>10</sub>

+ - shift typically is 8 hours in duration.

\* - Coating equipment added in March 12, 2009 permit.

## EMISSIONS INVENTORY

A copy of the 2010 annual emission update is attached. Emissions are summarized in the following tables.

2009 Actual Emissions

Emission Unit	Criteria Pollutant Emission in Tons/Year					
	PM <sub>10</sub>	PM <sub>2.5</sub>	SO <sub>2</sub>	NO <sub>x</sub>	CO	VOC
Heaters (Insig. Units)	0.18	0.05	0.01	2.38	2.00	0.13
Woodworking	5.11	5.11				
Finishing	0.79	0.79				43.97
Total	6.08	5.95	0.01	2.38	2.00	44.10

2010 Facility Hazardous Air Pollutant Emissions (HAPs)

Pollutant	HAP Emissions in Tons/Yr
Dimethyl phthalate	< 0.001
Ethyl benzene	0.814
Formaldehyde	0.014
Glycol Ethers	< 0.001
Methyl isobutyl ketone	0.002
Methanol	0.017
Hexane	0.043
Toluene	4.11
Xylene	2.79

## REVISIONS FOR EMISSION UNIT APPLICABLE REQUIREMENTS

Finishing operations in the March 19, 2008 Title V permit were divided into two sections, Finishing (Existing Sources) and Finishing (New/Modified Sources). As a result of a minor NSR permit issued March 12, 2009 the entire finishing operation is now considered to be the emissions unit. The two sections of the March 19, 2008 Title V permit have been combined into one section for Finishing. Only the Finishing section of the Title V permit is affected by the changes made in the March 12, 2009 minor NSR permit and subsequent August 25, 2011 minor NSR permit.

### Process Equipment Requirements - Woodworking

The significant modification to the Title V permit does not change any of the applicable requirements from the March 19, 2008 Title V permit.

### Process Equipment Requirements – Finishing

This group includes all finishing at the Aerial Way facility and includes associated volatile organic compound (VOC) and hazardous air pollutant (HAP) emissions. Minor NSR permits dated August 28, 2002 and May 23, 2006 were superseded by a minor NSR permit dated

March 12, 2009. The finishing line is considered the emissions unit and all coating booths are part of this finishing line (ES220A, ES225, ES227, ES228, ES229, ES230, ES231, ES233, ES234, ES235, & ES236). The minor NSR permit issued on August 25, 2011 increased the permitted emission limits for the finishing line at the facility and superseded the March 12, 2009 permit.

The above-referenced finishing equipment is considered “new or modified” under Virginia Regulations, that is, it is equipment constructed, installed or modified after March 17, 1972. The above-referenced equipment is subject to new and modified stationary source standards, as contained in Virginia Regulations 9 VAC 5 Chapter 50 – New/Modified Stationary Sources; and the requirements of all respective NSR permits.

There are no applicable federal New Source Performance Standards (NSPS – 40 CFR 60) at this time for finishing. The Maximum Achievable Control Technology (MACT) standard for wood furniture plants (40 CFR 63 Subpart JJ) applies to all finishing operations at the plant, as an existing source. CWP’s primary method for meeting the federal standard is to maintain an average coating ratio of HAPS/solids of less than 1.0 lb VHAP/lb solids.

### **Limitations**

Limitation requirements in the Title V permit were updated to reflect the conditions of the minor NSR permit issued August 25, 2011. These changes include:

Condition IV.A.1 requires that particulate emissions (PM & PM-10) from all coating booths be controlled by dry filters (NSR Condition 2).

Condition IV.A.2 requires that the dry filters have a control efficiency of 95 percent for PM and PM-10 (NSR Condition 3)

Condition IV.A.3 requires work practices to minimize fugitive VOC emissions (NSR Condition 4).

Condition IV.A.4 contains the annual emissions limits for the finishing operation for PM, PM-10, and VOCs (NSR Condition 7).

Condition IV.A.5 contains the opacity limitation for the coating booths (NSR Condition 8).

Condition IV.A.6 requires the affected source be operated in a manner consistent with good operation practices for minimizing emissions. Requirements include a maintenance schedule, an inventory of parts, operating procedures, and operator training (NSR Condition 13).

### **Monitoring**

Monitoring requirements in the Title V permit were updated to reflect the requirements of the minor NSR permit issued August 25, 2011, and also to update the previous periodic

monitoring requirements of the Title V permit.

Condition IV.B.1 requires the permittee to observe the coating booth dry filters as recommended by the manufacturer, and to maintain records of the observation, maintenance, and filter replacement (NSR Condition 5).

Condition IV.B.2 combines two periodic monitoring conditions from the March 19, 2008 Title V permit into one condition to cover all of the coating booths at the facility, and continues the visible emissions monitoring as outlined in that permit.

### **Recordkeeping**

Recordkeeping requirements in Condition IV.C of the Title V permit were updated to reflect the requirements of the minor NSR permit issued August 25, 2011 (NSR Condition 9). These records include coating and VOC records, emission calculations, filter efficiency information, and maintenance and training records. Records regarding periodic monitoring are also to be kept.

### **Testing**

The permit does not require source tests. The DEQ and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

### **Reporting**

Reporting requirements continue to be covered by the Facility Wide Conditions and General Conditions of the Title V permit

### **Streamlined Requirements**

The minor NSR permit issued March 12, 2009 required the notification of commencing construction and start-up of the new emissions units (ES234, ES235, & ES236). Those notifications have already been received by DEQ, so the conditions referencing the notifications have not been included in the Title V permit.

### **APPLICABLE MACT REQUIREMENTS (40 CFR 63, SUBPART JJ)**

The requirements of Subpart JJ continue to apply to the finishing operations of the facility.

### **COMPLIANCE ASSURANCE MONITORING (CAM)**

This permit action does not have any effect on the finding for applicability for the woodworking operations of the facility in the March 19, 2008 Title V permit.

For the finishing operation, each of the individual 14 coating booths is equipped with dry filters to control particulate emissions. The potential to emit of particulates from each of these coating booths is less than the major source threshold. Therefore, CAM is not applicable to the particulate emissions from the coating booths.

### **GENERAL CONDITIONS**

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110 that apply to all Federal-operating permitted sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

The General Conditions have been updated to match the current boilerplate (March 2010), which more clearly defines the requirements applicable to the source.

#### **FUTURE APPLICABLE REQUIREMENTS**

There are currently no known future applicable requirements for this facility.

#### **INAPPLICABLE REQUIREMENTS**

There are no changes from the March 19, 2008 Title V permit.

#### **COMPLIANCE PLAN**

None

#### **INSIGNIFICANT EMISSION UNITS**

There are no changes from the March 19, 2008 Title V permit.

#### **CONFIDENTIAL INFORMATION**

The permittee did not submit a request for confidentiality. All portions of the Title V application are suitable for public review.

#### **PUBLIC PARTICIPATION**

The proposed permit will be placed on public notice in the Roanoke Times from July 8, 2011 to August 8, 2011.